KA Skills Progression in Working Scientifically in Science

EYFS	**ELG: Listening, Attention and Understanding**		**ELG: Speaking**		**ELG: The Natural World**	
	-Listen attentively and respond to what they hear with relevant questions, comments and actions when being read to and during whole class discussions and small group interactions - Make comments about what they have heard and ask questions to clarify their understanding.		- Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary. - Offer explanations for why things might happen, making use of recently introduced vocabulary from stories, non-fiction, rhymes and poems when appropriate. - Express their ideas and feelings about their experiences using full sentences, including use of past, present and future tenses and making use of conjunctions, with modelling and support from their teacher.		- Explore the natural world around them, making observations and drawing pictures of animals and plants; - Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class; - Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.	
	Y1	**Y2**	**Y3**	**Y4**	**Y5**	**Y6**
Asking & Answering Questions	Begin to ask simple questions and recognise that they can be answered in different ways Use everyday language and simple scientific vocabulary to answer science questions.	Ask simple questions and recognising that they can be answered in different ways. Begin to use simple secondary sources to find answers such as books or videoclips. Use scientific vocabulary within their answers.	Use ideas to pose relevant questions to investigate and use different types of scientific enquiries to answer them	Ask relevant questions and using different types of scientific enquiries to answer them including using secondary sources such as IT.	Raise different types of scientific questions and hypothesis.	Pose/select the most appropriate ling of enquiry to investigate scientific questions.
Investigating	Begin to perform simple tests and observe what happens Follow instructions to complete a simple test individually or in a group.	Perform simple tests and make observations ensuing that they do things in the correct order. Begin to recognise when something is unfair in a simple test.	Begin to set up simple practical enquiries, comparative and fair tests.	Make decisions about how best to set up simple practical enquiries, comparative. Recognise when a fair test is necessary. Begin to identify variables.	Begin to plan comparative tests Begin to plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary	Plan the most suitable types of scientific enquiries to answer questions, including recognising and controlling variables where necessary and explaining why.
Observing	Begin to observe more closely, using simple equipment such as hand lenses. Observe objects, materials and living things. Describe what they see.	Observe closely and describe using scientific vocabulary what they see. Describe changes over time.	Begin to make systematic and careful observations. Begin to decide what to observe.	Make decisions about what should be observed and ensure systematic and careful observations	Plan and carry out comparative and fair tests, making systematic and careful observations.	Make their own decisions about which observations to make, using tests results and observations to make predictions to set up further comparative fair tests.
Equipment & Measuring	Use simple non-standard units within a practical task e.g., how many bricks did it take before the bridge broke?	Use simple equipment to such as hand lenses/timers/rulers to take measurement.	Where appropriate take accurate measurements using standard units. Use a range of equipment, including thermometers.	Take accurate measurements using standard units. Use a range of equipment, including thermometers and data loggers.	Begin to take measurements, using a range of scientific equipment, with increasing accuracy and precision.	Choose the most appropriate equipment in order to take accurate measurements, explaining how to use it correctly. Decide how long to take measurements for checking results with additional readings.
Identifying & classifying	With help, begin to identify and classify by deciding how to group objects by observable features.	Identify and classify by grouping using observable features. Group according to observable changes over time.	Talk about criteria for grouping, sorting and categorising, beginning to see patterns and relationships.	Identify similarities/differences/changes when talking about scientific processes. Use and begin to use simple keys.	Use and develop keys to identify. Classify and describe living things and materials.	Identify and explain patterns seen in the natural environment.

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Recording & reporting Findings	Begin to gather and record simple data to help in answering questions. Talk about their findings and explain what they found out.	Gather and record data to help in answering questions. Use scientific vocabulary Begin to record in different ways, such as drawings, sentences, simple charts.	Begin to record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables	Gather, record, classify and present data in a variety of ways to help in answering questions Begin to make decisions on recording findings for different audiences. including oral and written explanations, displays or presentations of results and conclusions	Begin to record data and results using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graph Begin to report and represent findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations	Present results using scatter diagrams & line graphs Choose the most effective approach to record and report results linking to mathematical knowledge.
Analysing	Use every day or simple scientific language to ask and /or answer a question on given data.	With support begin to notice patterns and relationships. Use simple comparative language.	Gather, record and use data in a variety of ways to answer a simple question.	With support, recognises patterns in data to help form conclusions. Use scientific evidence to support findings.	Begin to identify scientific evidence that has been used to support or refute ideas or arguments	Identify scientific evidence that has been used to support or refute ideas or arguments selecting fact from opinion. Begin to explain causal relationships Explain degrees of trust
Drawing Conclusions	Begin to use their observations and ideas to suggest answers to questions.	Use observations and ideas to suggest answers to questions including scientific vocabulary within their response.	Begin to use results to draw simple conclusions, make predictions for new values, suggest improvements, and raise further questions	Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Make predictions and draw conclusions from results of fair tests, using scientific language	Use a simple mode of communication to justify their conclusions on a hypothesis. Begin to recognise how scientific ideas change over time.	Identify validity of conclusions and required improvement to methodology. Discuss how scientific ideas develop over time.
	SEND PROVISION: **Ensure visual supports to enable clear comparisons** **Scaffolds to support with recording** **Word bank to support with scientific vocabulary** **Consider pre-teaching when brand new concepts** **Consider ways to recording if writing is a barrier in order science learning is assessed – recording equipment/filming/scribing** **Use of Natural Reader to follow written instruction** **Consider the scales used for recording** **Consider giving choice of equipment for those requiring additional support** **Consider sensory needs when completing some types of enquiry e.g., light sensitivity/hearing sensitivity and put in support such as sunglasses/ear defenders** **Consider if IT be used to support assessment if recording is a barrier e.g., busy things for sorting**					